Figure 1: Flowers and stems of the albino *Drosera filiformis* var. *tracyi*. Note absence of any red pigment throughout.

Figure 2: Flowers and stem of the pink-flower form of *Drosera filiformis* var. *tracyi*. Note the red pigment on the flower stem, raceme and flower pedicel.

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Observations on a Selection of Tasmanian Carnivorous Plants

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In January 1997 I returned to Tasmania to conduct fieldwork on a selection of carnivorous plants in Tasmania. The following is an account of the more unusual observations and supplement those made during fieldwork in 1991.

The island state of Tasmania has fifteen native species of carnivorous plants: *Drosera arcturi*, *D. auriculata*, *D. binata*, *D. glanduligera*, *D. macrantha* subsp. *planchonii*, *D. peltata*, *D. pygmaea*, *D. spatulata*, *Utricularia australis*, *U. dichotoma*, *U. lateriflora*, *U. monanthos*, *U. tenella*, *U. uniflora* and *U. violacea* (Erickson, 1968; Taylor, 1989). These occur throughout the state, with a general trend of winter-growing perennial and annual species growing on the eastern and northern coasts, and perennial evergreen and summer growing species growing in the central and southern parts of the island. Whilst none of the carnivorous plants in Tasmania are confined to the state there

Figure 1: Rosette of *D. spatulata* from near Southport.

Drosera pygmaea: Flowering plants of *Drosera pygmaea* were seen at two location on the west coast of the island. The rosettes were 1 cm across and vivid red in colour. Flowers were open from approximately 9 a.m. to 1 p.m. during hot dry conditions. An interesting feature of these flowers is that the petals are bicoloured, with three red veins at the base of otherwise white-petalled flowers. Further investigation of the morphology of other parts of these

Figure 2: Flowering *Drosera binata*, with *Utricularia dichotoma* in western Tasmania, back-lit by afternoon sun.

Figure 3: Beautifully variegated flower of *Utricularia monanthos*.

are a number of local, possibly endemic variants. Unusual observations on a selections of carnivorous plant species are given below.

Drosera arcturi: The alpine sundew which grows in Tasmania is larger than the typical form in southeastern Australia and New Zealand, with leaves to 25 cm long and scapes with up to three flowers. These plants are described in Gibson (1998).

plants in Tasmania are required to see if they differ from plants in other parts of the range.

Drosera spatulata: Herbarium material indicates this species is found on the eastern and western coastal regions of the island. I have seen *D. spatulata* at two locations, one near Zeehan on the west coast and the other near Southport, on the east coast. The latter is where the type material was collected by Labillardiere. At both

locations the plants have spatulate leaves, with a wedge shaped petiole and rounded leaf apex, and retentive glands along the length of the leaves. Only white-petalled flowers were seen. The plants near Zeehan grew in dazzlingly white quartzite gravel in a shallow creek, and the plants were vividly red. Near Southport rosettes to 3 cm in diameter grew in peaty soil over a cutting in sandstone in a seepage zone (Figure 1). In both areas they grew with *D. binata, D. pygmaea. U. dichotoma* and *U. lateriflora*.

Drosera binata: The type collection of this species was made near the town of Southport by Labillardiere, and the species' description was published in 1804. Plants in this area have erect petioles, measuring up to 20 cm tall surmounted by a once (very rarely twice) forked lamina up to 8 cm across. They have erect scapes, with white-petalled flowers up to 1.2 cm in diameter. Several plants were found in clay soil beside the road which was drying out in the summer. In this environment the leaves were beginning to die but flower development continued. In wet buttongrass plains in western Tasmania, they grow well and look stunning (Figure 2).

Utricularia dichotoma: Fan-shaped dark purple flowers of *U. dichotoma* were seen in roadside gutters, creeks, and wetter areas of buttongrass sedge swamps in the south-eastern and western parts of the state. Up to seven large flowers were held on each scape, the majority of which set seed. During my visit I observed for the first time a moth feeding at a flower. The dark grey moth with iridescent dark green wings, was 8 mm long and landed on the large lower petal at an angle to the raised yellow palate ridges. It raised and lowered its head and upper abdomen with its legs as it probed the end of the nectary spur with its thin proboscis. Later observations of the inside of the spurs of this and other *Utricularia* species revealed the presence of small, colourless drops of fluid which may contain sugars.

Utricularia lateriflora: Due to its deeply rooted nature, *U. lateriflora* is a widespread species, growing from permanently wet to seasonally wet environments on the east and west coasts of Tasmania. The multiflowered scapes hold purple flowers ranging from 2 mm across to 6 mm across.

U. monanthos: The mountain bladderwort occurs in the central plateau and south-western areas and is typically purple-petalled. In one area in western Tasmania I have found a rare white-petalled form. Whilst revisiting the site in January 1997 I found variably bicoloured flowers in this population (Figure 3). These flowers were purple with irregular white spotting, and also included a startling flower which was half purple and half white. Due to the variation in colour combinations there is the chance that this is due to a virus.

In the six years between visits the quality of a few carnivorous plant sites had degraded, particularly by the introduction and proliferation of leguminous weeds. Peaty road verges which previously supported an abundance of *D. binata* and *D. pygmaea* now support few plants.

The state of Tasmania contains a range of carnivorous plant species and includes interesting variants. Further observations and simple tests are suggested to investigate these plants in more detail.

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